

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-23 (cancelled)

Claim 24 (previously presented): A treatment device according to claim 25, further comprising:

means responsive to the detector output signals for producing output data representing the responsivity of different zones of a pre-determined area of the body;  
a store for the output data; and  
means for selecting a treatment zone from amongst the different zones based on an evaluation of the output data to select the zone of greatest responsivity.

Claim 25 (currently amended): A treatment device for applying electrical impulses to a living body ~~through~~via the skin, for non-invasively treating a variety of clinical conditions, comprising:

a pair of electrodes for contact with the skin;  
a waveform generator for repeatedly generating an AC waveform for applying electrical impulses through the electrodes to the skin;  
a detector for detecting ~~changes in the skin impedance~~ responsive to the applied electrical impulses and for generating detection signals representing the skin impedance;  
means responsive to the detector output signals for monitoring the responsivity of the skin; and  
indicator means activated by the monitoring means for generating a first indication when a predetermined level of responsivity is reached and a second indication when a pre-determined treatment has been administered, wherein:

the detector generates detector output signals in the form of pulses whose duration represents the skin impedance;

the monitoring means measures the duration  $t$  of each pulse; and

the indicating means is arranged to generate each indication when  $t$  satisfies a predetermined function of  $t$ .

Claim 26 (previously presented): A treatment device according to claim 25, in which:

the detector is arranged to receive a signal corresponding to the AC waveform influenced by changes in the skin impedance, and in which

the indicating means is arranged to generate the first indication when:

$$t_2 = 4.087 t_1^{0.7131}$$

where  $t_1$  and  $t_2$  represent initial and subsequent half wavelengths of a signal received by the detector.

Claim 27 (previously presented): A treatment device according to claim 25, in which:

the indicating means is arranged to generate the second indication when:

$$dZ/dt = 0$$

where  $Z$  is the skin impedance.

Claim 28 (previously presented): A treatment device according to claim 25, in which the AC waveform is a decaying sinusoidal waveform having an initial amplitude  $V_{\text{peak}}$ , a half wavelength  $t_1$  and a decay  $t_{\text{decay}}$  and in which  $V_{\text{peak}}$ ,  $t_1$  and  $t_{\text{decay}}$  can all be variably set by the user.

Claim 29 (previously presented): A treatment device according to claim 28, in which the repetition rate of the repeatedly generated AC waveform can be variably set by the user.

Claim 30 (previously presented): A treatment device according to claim 25, in which the detector comprises a comparator for comparing an output from the electrodes with a threshold level and for generating output pulses whose duration is determined by the threshold level.

Claim 31 (previously presented): A treatment device according to claim 30, in which the duration of the output pulses represents the skin impedance.

Claim 32 (previously presented): A treatment device according to claim 30, in which the monitoring means comprise means for measuring the duration of the pulses output by the comparator.

Claim 33 (previously presented): A treatment device according to claim 25, in which the indicator means comprise at least one audio indicator.

Claim 34 (previously presented): A treatment device according to claim 25, which is battery powered.

Claims 35-43 (cancelled)

Claim 44 (currently amended): A method of treating a living body ~~through~~ non-invasively via the skin, comprising the steps of:

- placing a pair of electrodes in contact with the skin;
- repeatedly generating an AC waveform to supply electrical impulses through the electrodes to the skin;
- detecting ~~changes in~~ the skin impedance responsive to the applied electrical impulses and generating detection signals representing the skin impedance;
- monitoring the responsivity of the skin; and

indicating firstly when a predetermined level of responsivity is reached and secondly when a predetermined treatment has been administered, wherein

the detection signals are in the form of pulses whose duration represents the skin impedance;

the step of monitoring comprises measuring the duration  $t$  of each pulse; and

the step of indicating comprises generating first and second indications respectively when  $t$  satisfies a predetermined function of  $t$ .

Claim 45 (previously presented): A treatment device for applying electrical impulses to a living body through the skin, for treating a variety of clinical conditions, comprising:

a pair of electrodes for contact with the skin;

a waveform generator for repeatedly generating an AC waveform for applying electrical impulses through the electrodes to the skin;

a detector for detecting changes in the skin impedance and for generating detection signals representing the skin impedance;

means responsive to the detector output signals for monitoring the responsivity of the skin; and

indicator means activated by the monitoring means for generating a first indication when a first predetermined level of responsivity is reached and a second indication when a predetermined treatment has been administered, wherein:

the detector comprises a comparator for comparing an output from the electrodes with a threshold level and for generating output pulses whose duration is determined by the threshold level, and

the monitoring means comprise means for measuring the duration of the pulses output by the comparator.

Claim 46 (previously presented): A method of treating a living body through the skin, comprising the steps of:

placing a pair of electrodes in contact with the skin;  
repeatedly generating an AC waveform to supply electrical impulses through the electrodes to the skin;  
detecting changes in skin impedance and generating detection signals representing the skin impedance;  
monitoring the responsivity of the skin; and  
indicating firstly when a predetermined level of responsivity is reached and secondly when a predetermined treatment has been administered, wherein:  
the step of detecting comprises comparing an output from the electrodes with a threshold level and generating output pulses whose duration is determined by the threshold level, and  
the step of monitoring comprises measuring the duration of the output pulses.

Claim 47 (new): A treatment device according to claim 25, wherein alterations in the skin impedance influence the electrical impulses applied through the electrical electrodes to the skin.

Claim 48 (new): A method according to claim 44, wherein alterations in the skin impedance influence the electrical impulses applied through the electrical electrodes to the skin.